REMARKS

Claims 8, 11, and 14 have been amended to address informalities for which the Office Action requested correction.

In sections 3 and 4, the Office Action rejects Claims 1, 2, and 6-11 under 35 U.S.C. Sec. 103(a) as being unpatentable over U.S. Patent No. 2,989,765 to Gingrich, "Gingrich" hereinafter, in view of U.S. Patent No, 5,003,658 to Rolleri, "Rolleri" hereinafter.

Section 5 rejects Claims 1, 2, and 6-11 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. 2,418,933 to Hill. "Hill" hereinafter.

Section 6 rejects Claims 3 and 4 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. 2,409,347 to Dootson, "Dootson" hereinafter.

Section 7 rejects Claim 11 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. to Goldenberg, "Goldenberg" hereinafter.

Section 8 rejects Claim 12 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. 5,829,293 to Chodorow, "Chodorow" hereinafter.

Section 9 rejects Claims 13-15 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. 2,454,995 to Curran, "Chodorow" hereinafter.

Section 10 rejects Claims 13-15 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. 3,939,522 to Shimuzu, "Shimuzu" hereinafter.

Section 11 rejects Claim 17 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. 3,267,512 to Wiley, "Wiley" hereinafter.

Section 11 rejects Claim 17 under 35 U.S.C. Sec. 103(a) as being unpatentable over Gingrich in view of Rolleri and further in view of U.S. Patent No. 5,184,719 to Gordon, "Gordon" hereinafter.

Applicant traverses all rejections and requests reconsideration.

Sec. 103 Rejections

The Office Action states:

> Regarding the limitation in claims 6-10 that the handle arm and bristle arm are manufactured from sheet plastic, the method of forming the product is not germane to the issue of patentability of the product itself provided that the prior art is the same or an obvious variant of Applicant's product. The burden is upon the Applicant to show unobvious differences between the claimed product and the prior art product. Gingrich states that the bristle arm (10) and the handle arm (8) are made from plastic in column 2, lines 29-35. However, Gingrich does not disclose that the plastic is in the form of a sheet prior to making the toothbrush. The limitations of the handle arm and the bristle arm being manufactured from sheet plastic does not make a structural difference in the final product.

Office Action, page 3, line 18, through page 4, line 6.

The Office Action further states:

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the length of the toothbrush 4 inches long, in order for the toothbrush to be small enough to fit in a person's pocket.

Office Action, page 4, lines 2 -15.

The Office Action further states:

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the combination of Gingrich and Rolleri so that the thickness of the handle arm is within the range of 0.01 inches and 0.1 inches and the thickness of the bristle arm within the range of 0.08 inches to 0.5 inches, since such modifications would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art.

Office Action, page 4, lines 16-22.

But these limitations are not mere design choices. As discussed at length in the specification, Applicant's system is directed in part towards a small (both in thickness and in length), lightweight, portable toothbrush that is economical enough to manufacture that it can be considered disposable.

A simple resizing or choice of materials to suit those goals may not be functional. To come up with a functional design that allows the toothbrush to be applied with sufficient force to get the teeth clean -- in the directions of repetitive motion needed to clean teeth -- that does not fold, buckle, or bend during effective use, that can comfortably reach all teeth in the mouth, that is sized for a comfortable fit in the hand, and that can be manufactured cheaply and easily enough for economic feasibility requires sufficient design and engineering skill.

Applicant's design features arms with an area of overlap. The overlap distributes the force of the human hand during brushing, and provides reinforcement in the proper areas. The specific structure of the arc area through which the toothbrush folds, the location of the joint, and the extent of overlap – the reinforcement and force distribution during use as effected by Applicant's system -- allows the toothbrush to be manufactured from material – for example, a thin sheet plastic, as required by Claim 6 and its dependent claims – that would not be feasible in a design that used very thin plastic but did provide material reinforcement, design reinforcement (by the designed placement of the human hand during use), and force distribution during use (by the overlapping areas and the joint design). These features are discussed in the Application.

Another innovator could, perhaps, have come up with the idea of providing structural support for the sheet plastic to provide the reinforcement necessary for use – this might allow the use of sheet plastic for the manufacture of a toothbrush -- but this would complicate the manufacture and increase the costs and the size of the toothbrush. Applicant's folding design inherently and innovatively provides this added support.

Still another innovator could have placed more joints in the toothbrush in order to decrease the size. If one joint folds the brush basically in half, more joints could fold it into smaller fractions. This would be effective for the inventor whose goal was a small folded size. However, adding joints would decrease stability and might not allow for the use of sufficient force to effect cleaning. As the Application points out, a single joint (for the toothbrush itself) is an important functional element in Applicant's system. Further, as discussed in the Application, the arc of folding distributes force so as to obviate buckling of the toothbrush arms.

The Application teaches placement of a single joint at the location where the hand provides maximum support during brushing. This allows for thinner material to be used. Furthermore, the specific axis of rotation of the two arms, the general location of the joint, and the degree of overlap of the arms distributes force and provides support (especially in conjunction with a typical hand position during use) and stability. Far from being simple design choices, these innovations allow the use of a cheaper, thinner material (plastic) and a small folded size. For example, thicker plastic might be able to be used in a different but similar design; the thicker plastic might provide the necessary support and stability, but at greater material cost and design difficulty (*e.g.*, casting versus cutting from sheet plastic).

Similarly, metal or some similarly strong material might be used in a different system (one not using Applicant's innovative design) to provide the thinness of Applicant's arm system – but the costs of materials and manufacture would be greatly increased.

Applicant's system is a particular innovative combination of thin material with expert ergonomic design. It yields a functional synergy nowhere disclosed by any of the cited art, singly or in any combination. There is no teaching to modify the existing art to yield Applicant's invention. Accordingly, Applicant's invention as claimed is not obvious over the cited art.

The art cited is directed to materials, size, and type of fastening, etc. None shows Applicant's novel design with its specific functional choices. None discloses, teaches, or appears to have even thought of Applicant's system as claimed. Applicant's design provides advantages nowhere seen in the prior art. Thus, Applicant's system as claimed is not obvious and is entitled to patent protection.

CONCLUSION

Applicant submits that the invention as claimed is not disclosed, taught, or suggested by the cited art. Therefore, it is submitted that all pending claims are allowable over the art of record and it is respectfully requested that the Application be passed to allowance and issue.

Respectfully submitted,

Lorraine S. Hirsch

Lorraine S. Hirsch
Attorney for Applicant
Reg. No. 35,545
(408) 358-1572

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on June 16, 2006

Lorraine S. Hirsch

Signature: Lorraine S. Hirsch
Reg. No. 35,545